



The Role Of Some Innovative Technologies In Teaching Chemistry In Secondary School

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Abstract: Introducing innovative methods into the educational process at work, ensuring the coordination of educational programs with production, teachers using many innovative technologies in learning the cycle of natural and scientific sciences, and using these technologies in all types of classes. In addition, there are forms of working with students to equalize their knowledge level.

Key words: information, innovation, technology, communication, computer, collective teaching, integrative education, test, seminar and conference classes

It is known that education in our Republic is rising to a new level, the level of thinking of students is expanding more and more, it is becoming easier to get information, in the process of such growth, not using innovative technologies in teaching reduces the effectiveness of the lesson. Today, the process of transition to "informational" society or "communicative" society is taking place. These changes affect all spheres of life. Therefore, on the initiative of the President, consistent work is being done in our country on the innovative development of leading sectors and industries, the widespread introduction of innovative ideas and technologies into production. It should be noted here that the head of our state Sh. Mirziyoyev's decree of November 29, 2017 "On the establishment of the Ministry of Innovative Development of the Republic of Uzbekistan" serves to raise the work in this regard to a new level.

One of the important tasks is to introduce innovative methods into the educational process, to ensure the coordination of educational programs with production and, most importantly, to improve the qualifications of professors and teachers [1]. Innovative pedagogical technology is a complex process that implements a directed method, procedures and tools to achieve a city with added technology [2].

Teachers use many innovative technologies when studying any cycle of natural and scientific sciences, including:

1. Developmental education (problematic, discussion education)
2. Innovative (media technologies, algorithms, computer)
3. Education based on an individual-differentiated (differentiated) approach to education (person-oriented education)
4. Cooperation technology (collective teaching, game methods)
5. Educational technologies in non-traditional systems (interdisciplinary, teaching and learning forms, improved teaching technology) in the organization of the educational process.

6. Modular teaching technologies (in knowledge, integrative education) and others.

Characteristics of educational innovation:

1. A different approach to the educational process, different from the traditional approach.
2. New methods and directions of solving the educational program, which is different from traditional education.
3. Guarantee of achievement of the new educational result.

In chemistry lessons, the technologies mentioned above are used in all types of lessons:

1. Learning new educational material.
2. Improvement of knowledge, skills and abilities.
3. Generalization of knowledge.
4. Control of acquired knowledge, skills and abilities

The role of problem-based teaching is increasing in every lesson, because the problem of the new subject of the lesson is presented to the students.

It is necessary to switch to individual-oriented developmental education based on the method of cooperation between teachers and students aimed at solving the educational problem, which can be shown as follows:

Students' independent creative activity, desire to understand the unknown.

Development of students' abilities;

to conduct research on new ones based on life experiences and new sources of understanding.

Know how to evaluate your results.

Active experiences through the independent activity of students are important for the teacher from this acquired educational method. Therefore, the pedagogical worldview is "I am with you, I am with you"; influenced by the positional active-initiative style of the student's dialogue and active goal-directed education. Then updating the new material will understand the practical importance of the studied topic and its connection with the profession. Collaborative learning is connected learning, which shows that learning together is not only efficient and interesting, but also very effective [3].

Such personality-developing qualities are formed in students that they:

& Achieving success through collaborative work;

& Spirituality of development;

After completing the task, students are given a test to check their mastery and understanding of the new material. Students work individually on the test task. Tests are given at different levels for strong and weak students. Weak students strive to complete their tasks as if they were competing with their previous achievements.

Mastering new material by each student is the most effective way of doing this. Teachers' demand for the studied material does not decrease, because the material is studied with students by the method of heuristic conversation with the help of a scheme, a table, and a computer.

The performance indicators of the didactic tasks of the lesson are the following:

& Arousing interest in the specific goal (problem) of the lesson.

& Ensuring the scientific level of teaching.

& Complete and accurate definition of the objects and phenomena being studied, writing chemical formulas and reaction equations.

& Writing definitions and concepts of the basic chemical laws of the lesson plan in the notebooks.



& Evaluation of teaching quality.

If the problem statement process is carried out by the method of partnership - teacher - student and reconnection is seen, then the students will develop their understanding and intellectual abilities in the process of independent acquisition of chemical knowledge with the help of various information sources, as well as the computer.

He begins to understand why chemistry is studied and how it plays a role in his future profession. Acquired social knowledge and skills can be a leader in the formation of a socially person-oriented student.

In order to start work on science with newly admitted students, it is necessary to transfer students' real knowledge of science.

Diagnostic control work in chemistry gives a realistic picture of the level of knowledge. It is necessary to equalize the level of knowledge of students, therefore, the form of working with students is different:

& Individual, using different levels of tasks.

& Small groups-pairs, more interesting mutual dictation, mutual control.

& groups of 4 and 5 people—make basic outlines.

& Collective—solving examples for mutual control in processing skills.

& Mutual education - performing tasks on cards.

Seminar classes and conference classes play an important role in the study of chemistry, and the amount of work spent on independent work and the result strongly depend on the individual characteristics of a person. A distinctive feature of innovative teaching is the improvement of the previously existing and the introduction of new ones. Productivity in the innovative method consists of the innovative activity of the teacher and the creative activity of the students. In conclusion, the presence of an innovative component in the current model of modern higher education institutions requires the implementation of innovative activities, including both its traditional and non-traditional stages.

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